



**AtmoProbe™ vs. Oxygen Percent**

(Percent Range)

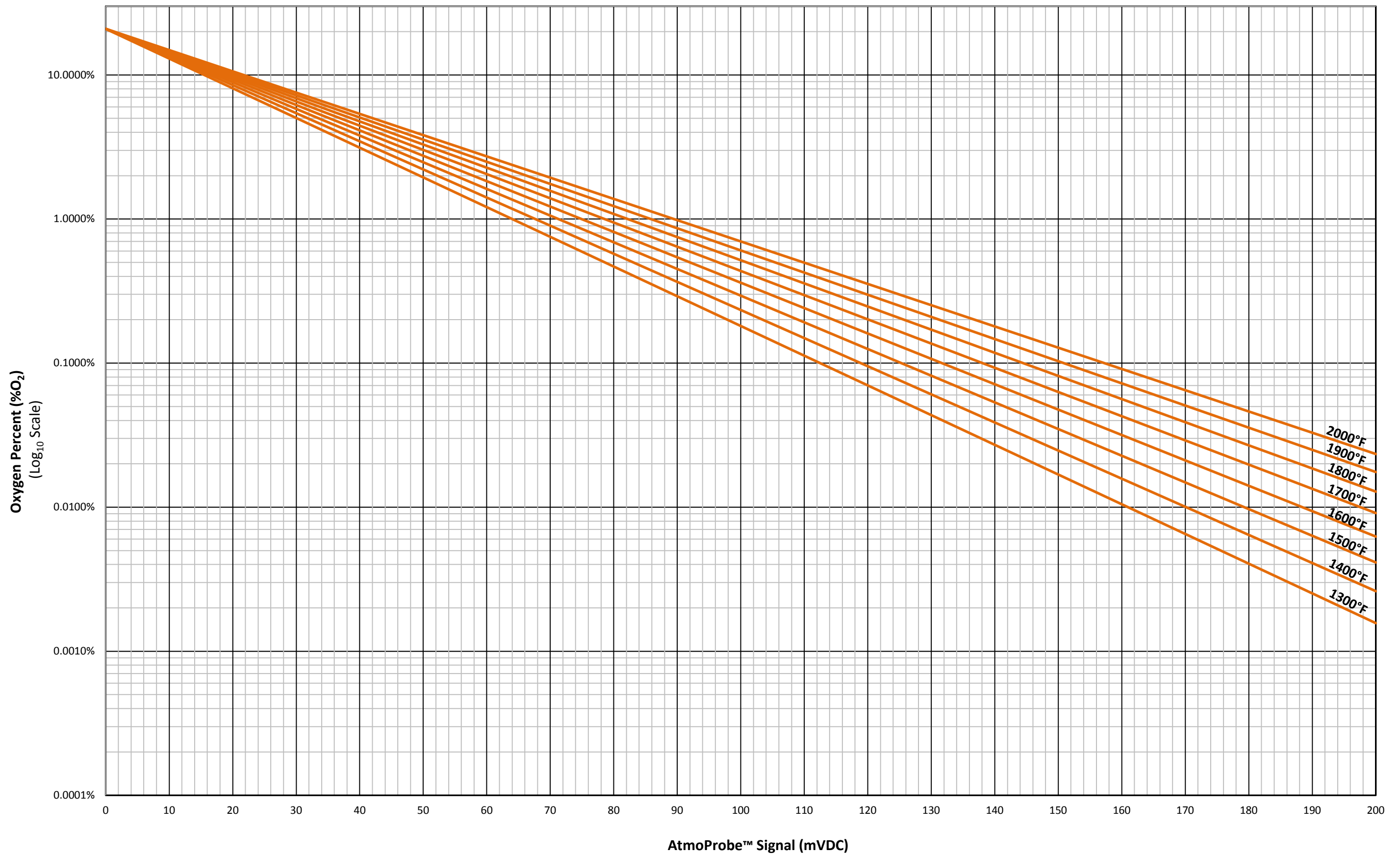
Ref. %O <sub>2</sub> 20.90%	AtmoProbe™ Temperature (°F)															
	1300 (704°C)	1350 (732°C)	1400 (760°C)	1450 (788°C)	1500 (816°C)	1550 (843°C)	1600 (871°C)	1650 (899°C)	1700 (927°C)	1750 (954°C)	1800 (982°C)	1850 (1010°C)	1900 (1038°C)	1950 (1066°C)	2000 (1093°C)	2050 (1121°C)
0	20.900%	20.900%	20.900%	20.900%	20.900%	20.900%	20.900%	20.900%	20.900%	20.900%	20.900%	20.900%	20.900%	20.900%	20.900%	20.900%
5	16.483%	16.591%	16.694%	16.793%	16.887%	16.977%	17.063%	17.145%	17.224%	17.299%	17.372%	17.441%	17.508%	17.573%	17.635%	17.695%
10	12.999%	13.170%	13.335%	13.493%	13.644%	13.790%	13.930%	14.064%	14.194%	14.319%	14.439%	14.555%	14.667%	14.775%	14.880%	14.981%
15	10.251%	10.455%	10.652%	10.841%	11.024%	11.201%	11.372%	11.537%	11.697%	11.852%	12.001%	12.146%	12.287%	12.423%	12.555%	12.683%
20	8.085%	8.300%	8.508%	8.711%	8.908%	9.099%	9.284%	9.464%	9.640%	9.810%	9.975%	10.136%	10.293%	10.445%	10.594%	10.738%
25	6.376%	6.588%	6.796%	6.999%	7.197%	7.391%	7.579%	7.764%	7.944%	8.120%	8.291%	8.459%	8.623%	8.783%	8.939%	9.091%
30	5.028%	5.230%	5.429%	5.624%	5.815%	6.003%	6.188%	6.369%	6.547%	6.721%	6.892%	7.059%	7.223%	7.384%	7.542%	7.697%
35	3.965%	4.152%	4.336%	4.519%	4.699%	4.876%	5.052%	5.225%	5.395%	5.563%	5.728%	5.891%	6.051%	6.209%	6.364%	6.517%
40	3.127%	3.296%	3.464%	3.631%	3.796%	3.961%	4.124%	4.286%	4.446%	4.604%	4.761%	4.916%	5.069%	5.220%	5.370%	5.517%
45	2.466%	2.616%	2.767%	2.917%	3.067%	3.217%	3.367%	3.516%	3.664%	3.811%	3.957%	4.103%	4.247%	4.389%	4.531%	4.671%
50	1.945%	2.077%	2.210%	2.344%	2.478%	2.613%	2.749%	2.884%	3.019%	3.155%	3.289%	3.424%	3.557%	3.691%	3.823%	3.955%
55	1.534%	1.649%	1.765%	1.883%	2.003%	2.123%	2.244%	2.366%	2.488%	2.611%	2.734%	2.857%	2.980%	3.103%	3.226%	3.348%
60	1.210%	1.309%	1.410%	1.513%	1.618%	1.724%	1.832%	1.941%	2.051%	2.161%	2.272%	2.384%	2.497%	2.609%	2.722%	2.835%
65	0.954%	1.039%	1.126%	1.216%	1.307%	1.401%	1.496%	1.592%	1.690%	1.789%	1.889%	1.990%	2.091%	2.194%	2.297%	2.400%
70	0.752%	0.825%	0.900%	0.977%	1.056%	1.138%	1.221%	1.306%	1.393%	1.481%	1.570%	1.660%	1.752%	1.844%	1.938%	2.032%
75	0.593%	0.655%	0.719%	0.785%	0.853%	0.924%	0.997%	1.071%	1.148%	1.226%	1.305%	1.386%	1.468%	1.551%	1.635%	1.720%
80	0.468%	0.520%	0.574%	0.631%	0.690%	0.751%	0.814%	0.879%	0.946%	1.014%	1.085%	1.156%	1.230%	1.304%	1.380%	1.456%
85	0.369%	0.413%	0.459%	0.507%	0.557%	0.610%	0.664%	0.721%	0.779%	0.840%	0.902%	0.965%	1.030%	1.096%	1.164%	1.233%
90	0.291%	0.328%	0.366%	0.407%	0.450%	0.495%	0.542%	0.591%	0.642%	0.695%	0.749%	0.805%	0.863%	0.922%	0.982%	1.044%
95	0.230%	0.260%	0.293%	0.327%	0.364%	0.402%	0.443%	0.485%	0.529%	0.575%	0.623%	0.672%	0.723%	0.775%	0.829%	0.884%
100	0.181%	0.206%	0.234%	0.263%	0.294%	0.327%	0.362%	0.398%	0.436%	0.476%	0.518%	0.561%	0.606%	0.652%	0.699%	0.748%
105	0.143%	0.164%	0.187%	0.211%	0.237%	0.265%	0.295%	0.326%	0.359%	0.394%	0.430%	0.468%	0.507%	0.548%	0.590%	0.634%
110	0.113%	0.130%	0.149%	0.170%	0.192%	0.216%	0.241%	0.268%	0.296%	0.326%	0.358%	0.391%	0.425%	0.461%	0.498%	0.536%
115	0.089%	0.103%	0.119%	0.136%	0.155%	0.175%	0.197%	0.220%	0.244%	0.270%	0.297%	0.326%	0.356%	0.387%	0.420%	0.454%
120	0.070%	0.082%	0.095%	0.110%	0.125%	0.142%	0.161%	0.180%	0.201%	0.223%	0.247%	0.272%	0.298%	0.326%	0.354%	0.384%
125	0.055%	0.065%	0.076%	0.088%	0.101%	0.116%	0.131%	0.148%	0.166%	0.185%	0.205%	0.227%	0.250%	0.274%	0.299%	0.325%
130	0.044%	0.052%	0.061%	0.071%	0.082%	0.094%	0.107%	0.121%	0.137%	0.153%	0.171%	0.189%	0.209%	0.230%	0.252%	0.276%
135	0.034%	0.041%	0.048%	0.057%	0.066%	0.076%	0.087%	0.099%	0.113%	0.127%	0.142%	0.158%	0.175%	0.194%	0.213%	0.233%
140	0.027%	0.033%	0.039%	0.046%	0.053%	0.062%	0.071%	0.082%	0.093%	0.105%	0.118%	0.132%	0.147%	0.163%	0.180%	0.198%
145	0.021%	0.026%	0.031%	0.037%	0.043%	0.050%	0.058%	0.067%	0.076%	0.087%	0.098%	0.110%	0.123%	0.137%	0.152%	0.167%
150	0.017%	0.021%	0.025%	0.029%	0.035%	0.041%	0.048%	0.055%	0.063%	0.072%	0.081%	0.092%	0.103%	0.115%	0.128%	0.142%
155	0.013%	0.016%	0.020%	0.024%	0.028%	0.033%	0.039%	0.045%	0.052%	0.059%	0.068%	0.077%	0.086%	0.097%	0.108%	0.120%
160	0.010%	0.013%	0.016%	0.019%	0.023%	0.027%	0.032%	0.037%	0.043%	0.049%	0.056%	0.064%	0.072%	0.081%	0.091%	0.101%
165	0.008%	0.010%	0.013%	0.015%	0.018%	0.022%	0.026%	0.030%	0.035%	0.041%	0.047%	0.053%	0.061%	0.068%	0.077%	0.086%
170	0.007%	0.008%	0.010%	0.012%	0.015%	0.018%	0.021%	0.025%	0.029%	0.034%	0.039%	0.045%	0.051%	0.058%	0.065%	0.073%
175	0.005%	0.006%	0.008%	0.010%	0.012%	0.014%	0.017%	0.020%	0.024%	0.028%	0.032%	0.037%	0.043%	0.048%	0.055%	0.062%
180	0.004%	0.005%	0.006%	0.008%	0.010%	0.012%	0.014%	0.017%	0.020%	0.023%	0.027%	0.031%	0.036%	0.041%	0.046%	0.052%
185	0.003%	0.004%	0.005%	0.006%	0.008%	0.010%	0.011%	0.014%	0.016%	0.019%	0.022%	0.026%	0.030%	0.034%	0.039%	0.044%
190	0.003%	0.003%	0.004%	0.005%	0.006%	0.008%	0.009%	0.011%	0.013%	0.016%	0.019%	0.022%	0.025%	0.029%	0.033%	0.037%
195	0.002%	0.003%	0.003%	0.004%	0.005%	0.006%	0.008%	0.009%	0.011%	0.013%	0.015%	0.018%	0.021%	0.024%	0.028%	0.032%
200	0.002%	0.002%	0.003%	0.003%	0.004%	0.005%	0.006%	0.008%	0.009%	0.011%	0.013%	0.015%	0.018%	0.020%	0.023%	0.027%

Nernst Equation:

$$\%O_2 = [\text{Ref. } O_2] \times e^{(mV / (-0.02154 \times \text{Temp}^\circ K))}$$



**AtmoProbe™ vs. Oxygen Percent**  
(Percent Range)



Nernst Equation:  
$$\%O_2 = [\text{Ref. } O_2] \times e^{(mV / (-0.02154 \times \text{Temp}^\circ K))}$$

Reference Oxygen: 20.90%



**AtmoProbe™ vs. Oxygen Percent**  
(Partial Pressure Range)

Ref. %O <sub>2</sub> 20.90%	AtmoProbe™ Temperature (°F)															
	1300 (704°C)	1350 (732°C)	1400 (760°C)	1450 (788°C)	1500 (816°C)	1550 (843°C)	1600 (871°C)	1650 (899°C)	1700 (927°C)	1750 (954°C)	1800 (982°C)	1850 (1010°C)	1900 (1038°C)	1950 (1066°C)	2000 (1093°C)	2050 (1121°C)
400	1.18E-09	1.99E-09	3.27E-09	5.23E-09	8.17E-09	1.25E-08	1.87E-08	2.75E-08	3.97E-08	5.63E-08	7.87E-08	1.08E-07	1.47E-07	1.98E-07	2.62E-07	3.43E-07
420	4.55E-10	7.89E-10	1.33E-09	2.18E-09	3.48E-09	5.44E-09	8.31E-09	1.24E-08	1.83E-08	2.64E-08	3.76E-08	5.26E-08	7.25E-08	9.87E-08	1.33E-07	1.76E-07
440	1.76E-10	3.13E-10	5.41E-10	9.08E-10	1.48E-09	2.37E-09	3.69E-09	5.64E-09	8.44E-09	1.24E-08	1.79E-08	2.55E-08	3.57E-08	4.94E-08	6.73E-08	9.06E-08
460	6.81E-11	1.24E-10	2.20E-10	3.79E-10	6.33E-10	1.03E-09	1.64E-09	2.55E-09	3.89E-09	5.82E-09	8.55E-09	1.24E-08	1.76E-08	2.47E-08	3.41E-08	4.66E-08
480	2.63E-11	4.94E-11	8.97E-11	1.58E-10	2.70E-10	4.49E-10	7.28E-10	1.16E-09	1.79E-09	2.73E-09	4.08E-09	6.00E-09	8.66E-09	1.23E-08	1.73E-08	2.39E-08
500	1.02E-11	1.96E-11	3.65E-11	6.58E-11	1.15E-10	1.95E-10	3.24E-10	5.23E-10	8.28E-10	1.28E-09	1.95E-09	2.91E-09	4.27E-09	6.16E-09	8.76E-09	1.23E-08
520	3.94E-12	7.79E-12	1.49E-11	2.74E-11	4.90E-11	8.50E-11	1.44E-10	2.37E-10	3.82E-10	6.02E-10	9.30E-10	1.41E-09	2.10E-09	3.08E-09	4.44E-09	6.32E-09
540	1.52E-12	3.10E-12	6.05E-12	1.14E-11	2.09E-11	3.70E-11	6.39E-11	1.07E-10	1.76E-10	2.83E-10	4.44E-10	6.84E-10	1.03E-09	1.54E-09	2.25E-09	3.25E-09
560	5.90E-13	1.23E-12	2.46E-12	4.76E-12	8.90E-12	1.61E-11	2.84E-11	4.86E-11	8.12E-11	1.33E-10	2.12E-10	3.32E-10	5.10E-10	7.69E-10	1.14E-09	1.67E-09
580	2.28E-13	4.88E-13	1.00E-12	1.98E-12	3.79E-12	7.02E-12	1.26E-11	2.20E-11	3.75E-11	6.22E-11	1.01E-10	1.61E-10	2.51E-10	3.84E-10	5.79E-10	8.57E-10
600	8.82E-14	1.94E-13	4.08E-13	8.27E-13	1.62E-12	3.05E-12	5.60E-12	9.97E-12	1.73E-11	2.92E-11	4.83E-11	7.80E-11	1.24E-10	1.92E-10	2.93E-10	4.40E-10
620	3.41E-14	7.70E-14	1.66E-13	3.45E-13	6.89E-13	1.33E-12	2.49E-12	4.51E-12	7.97E-12	1.37E-11	2.30E-11	3.78E-11	6.09E-11	9.60E-11	1.49E-10	2.26E-10
640	1.32E-14	3.06E-14	6.77E-14	1.44E-13	2.94E-13	5.79E-13	1.10E-12	2.04E-12	3.68E-12	6.44E-12	1.10E-11	1.84E-11	3.00E-11	4.80E-11	7.53E-11	1.16E-10
660	5.11E-15	1.21E-14	2.75E-14	5.99E-14	1.25E-13	2.52E-13	4.91E-13	9.25E-13	1.70E-12	3.02E-12	5.25E-12	8.90E-12	1.48E-11	2.40E-11	3.82E-11	5.97E-11
680	1.98E-15	4.82E-15	1.12E-14	2.50E-14	5.33E-14	1.10E-13	2.18E-13	4.19E-13	7.82E-13	1.42E-12	2.51E-12	4.32E-12	7.27E-12	1.20E-11	1.94E-11	3.07E-11
700	7.64E-16	1.91E-15	4.56E-15	1.04E-14	2.27E-14	4.78E-14	9.68E-14	1.90E-13	3.61E-13	6.66E-13	1.20E-12	2.09E-12	3.58E-12	5.99E-12	9.81E-12	1.58E-11
720	2.96E-16	7.60E-16	1.86E-15	4.34E-15	9.69E-15	2.08E-14	4.30E-14	8.59E-14	1.66E-13	3.12E-13	5.71E-13	1.02E-12	1.76E-12	2.99E-12	4.97E-12	8.10E-12
740	1.14E-16	3.02E-16	7.57E-16	1.81E-15	4.13E-15	9.05E-15	1.91E-14	3.89E-14	7.67E-14	1.47E-13	2.72E-13	4.93E-13	8.69E-13	1.50E-12	2.52E-12	4.16E-12
760	4.42E-17	1.20E-16	3.08E-16	7.53E-16	1.76E-15	3.94E-15	8.49E-15	1.76E-14	3.54E-14	6.88E-14	1.30E-13	2.39E-13	4.28E-13	7.48E-13	1.28E-12	2.14E-12
780	1.71E-17	4.76E-17	1.25E-16	3.14E-16	7.50E-16	1.72E-15	3.77E-15	7.98E-15	1.63E-14	3.23E-14	6.21E-14	1.16E-13	2.11E-13	3.74E-13	6.48E-13	1.10E-12
800	6.62E-18	1.89E-17	5.10E-17	1.31E-16	3.20E-16	7.47E-16	1.67E-15	3.61E-15	7.53E-15	1.52E-14	2.96E-14	5.62E-14	1.04E-13	1.87E-13	3.28E-13	5.64E-13
820	2.56E-18	7.51E-18	2.08E-17	5.45E-17	1.36E-16	3.25E-16	7.44E-16	1.64E-15	3.47E-15	7.12E-15	1.41E-14	2.73E-14	5.11E-14	9.34E-14	1.66E-13	2.90E-13
840	9.90E-19	2.98E-18	8.46E-18	2.27E-17	5.81E-17	1.42E-16	3.30E-16	7.41E-16	1.60E-15	3.34E-15	6.75E-15	1.32E-14	2.52E-14	4.67E-14	8.44E-14	1.49E-13
860	3.83E-19	1.18E-18	3.44E-18	9.47E-18	2.47E-17	6.16E-17	1.47E-16	3.36E-16	7.38E-16	1.57E-15	3.22E-15	6.41E-15	1.24E-14	2.33E-14	4.28E-14	7.65E-14
880	1.48E-19	4.70E-19	1.40E-18	3.95E-18	1.05E-17	2.68E-17	6.52E-17	1.52E-16	3.41E-16	7.36E-16	1.54E-15	3.11E-15	6.10E-15	1.17E-14	2.17E-14	3.93E-14
900	5.73E-20	1.87E-19	5.71E-19	1.65E-18	4.49E-18	1.17E-17	2.90E-17	6.88E-17	1.57E-16	3.45E-16	7.34E-16	1.51E-15	3.01E-15	5.82E-15	1.10E-14	2.02E-14
920	2.22E-20	7.41E-20	2.32E-19	6.86E-19	1.92E-18	5.08E-18	1.29E-17	3.12E-17	7.25E-17	1.62E-16	3.50E-16	7.31E-16	1.48E-15	2.91E-15	5.57E-15	1.04E-14
940	8.58E-21	2.94E-20	9.46E-20	2.86E-19	8.16E-19	2.21E-18	5.72E-18	1.41E-17	3.34E-17	7.61E-17	1.67E-16	3.55E-16	7.29E-16	1.45E-15	2.82E-15	5.33E-15
960	3.32E-21	1.17E-20	3.85E-20	1.19E-19	3.48E-19	9.63E-19	2.54E-18	6.39E-18	1.54E-17	3.57E-17	7.98E-17	1.72E-16	3.59E-16	7.27E-16	1.43E-15	2.74E-15
980	1.28E-21	4.64E-21	1.57E-20	4.96E-20	1.48E-19	4.19E-19	1.13E-18	2.89E-18	7.11E-18	1.68E-17	3.81E-17	8.34E-17	1.77E-16	3.63E-16	7.25E-16	1.41E-15
1000	4.96E-22	1.84E-21	6.38E-21	2.07E-20	6.32E-20	1.83E-19	5.01E-19	1.31E-18	3.28E-18	7.87E-18	1.82E-17	4.05E-17	8.71E-17	1.82E-16	3.68E-16	7.23E-16
1020	1.92E-22	7.32E-22	2.60E-21	8.62E-21	2.69E-20	7.95E-20	2.23E-19	5.93E-19	1.51E-18	3.69E-18	8.67E-18	1.96E-17	4.29E-17	9.08E-17	1.86E-16	3.72E-16
1040	7.43E-23	2.91E-22	1.06E-21	3.59E-21	1.15E-20	3.46E-20	9.89E-20	2.69E-19	6.97E-19	1.73E-18	4.14E-18	9.52E-18	2.11E-17	4.54E-17	9.44E-17	1.91E-16
1060	2.87E-23	1.15E-22	4.30E-22	1.50E-21	4.89E-21	1.51E-20	4.39E-20	1.22E-19	3.22E-19	8.14E-19	1.98E-18	4.62E-18	1.04E-17	2.27E-17	4.79E-17	9.81E-17
1080	1.11E-23	4.58E-23	1.75E-22	6.24E-22	2.09E-21	6.56E-21	1.95E-20	5.51E-20	1.48E-19	3.82E-19	9.43E-19	2.24E-18	5.12E-18	1.13E-17	2.43E-17	5.04E-17
1100	4.30E-24	1.82E-23	7.13E-23	2.60E-22	8.89E-22	2.85E-21	8.67E-21	2.50E-20	6.84E-20	1.79E-19	4.50E-19	1.09E-18	2.52E-18	5.66E-18	1.23E-17	2.59E-17
1120	1.66E-24	7.23E-24	2.90E-23	1.08E-22	3.79E-22	1.24E-21	3.85E-21	1.13E-20	3.16E-20	8.42E-20	2.15E-19	5.27E-19	1.24E-18	2.83E-18	6.23E-18	1.33E-17
1140	6.43E-25	2.87E-24	1.18E-23	4.52E-23	1.61E-22	5.41E-22	1.71E-21	5.12E-21	1.46E-20	3.95E-20	1.03E-19	2.55E-19	6.12E-19	1.41E-18	3.16E-18	6.84E-18
1160	2.49E-25	1.14E-24	4.81E-24	1.88E-23	6.88E-23	2.36E-22	7.60E-22	2.32E-21	6.71E-21	1.85E-20	4.89E-20	1.24E-19	3.01E-19	7.07E-19	1.60E-18	3.51E-18
1180	9.63E-26	4.53E-25	1.96E-24	7.85E-24	2.93E-23	1.03E-22	3.37E-22	1.05E-21	3.10E-21	8.70E-21	2.34E-20	6.01E-20	1.48E-19	3.53E-19	8.12E-19	1.80E-18
1200	3.72E-26	1.80E-25	7.98E-25	3.27E-24	1.25E-23	4.46E-23	1.50E-22	4.75E-22	1.43E-21	4.08E-21	1.11E-20	2.91E-20	7.31E-20	1.77E-19	4.11E-19	9.27E-19

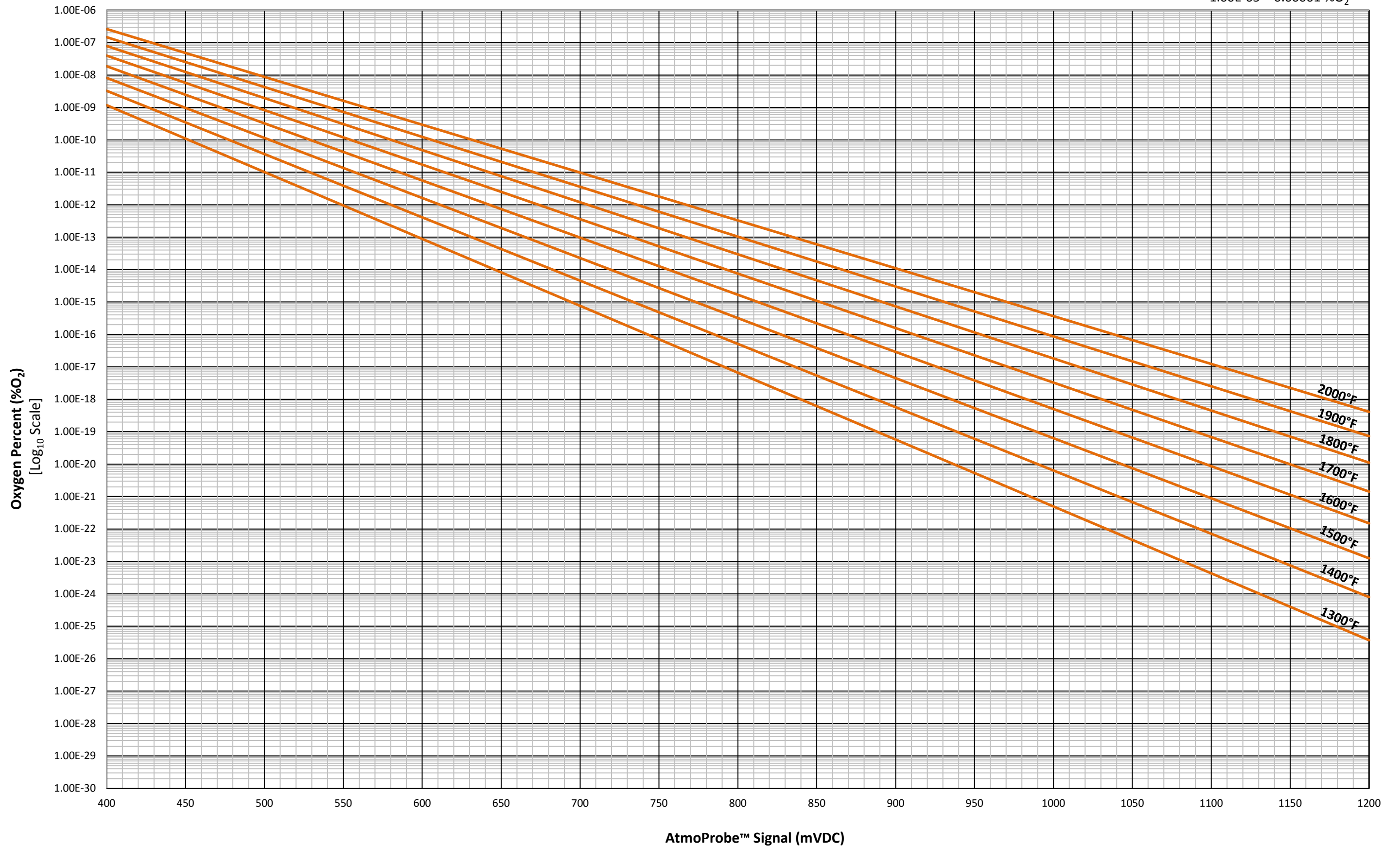
Nernst Equation:

$$\%O_2 = [\text{Ref. } O_2] \times e^{(mV / (-0.02154 \times \text{Temp}^\circ K))}$$



**AtmoProbe™ vs. Oxygen Percent**  
(Partial Pressure Range)

Scientific Notation:  
1.00E-05 = 0.00001 %O<sub>2</sub>



Nernst Equation:  
$$\%O_2 = [\text{Ref. } O_2] \times e^{(mV / (-0.02154 \times \text{Temp}^\circ K))}$$

Reference Oxygen: 20.90%